Huhn Michael

From: [redacted]
Sent: Wednesday, November 16, 2016 3:35 PM
To: Huhn Michael
Cc: [redacted]
Subject: FW: N364RM

Hi Mike,

I had asked Jim Lewis from Airtronics to explain the auto pilot system on that aircraft. See below.

David Jensen

Federal Aviation Administration

David T Jensen
Aviation Safety Inspector
Airworthiness Avionics

Oakland FSDO
Flight Standards District Office
[redacted]
Alameda, CA. 94502-7083
[redacted]

Please consider the environment before printing this email.

From: Jim Lewis [redacted]
Sent: Monday, November 14, 2016 4:14 PM
To: Jensen, David T (FAA)
Subject: N364RM

Mr. Jensen,

I am making another effort to send documents on N364RM. Earlier attempts were returned undeliverable as the files were reported to large for your server. I left you a message that I was going to set up a portal for you to the clients files, however after trying it seems I am not yet knowledgable with our document cloud on how to do that. Some of the files I sent under two prior emails you have and some you may not. I had Sabrina sending over docs, but she apparently was having like problems with large files.

Sabrina had forwarded to me your request from me for an outline of the autopilot for N364RM.

N364RM was equipped with a Bendix King KFC150 autopilot. From pictured you will see the autopilot computer was located at the bottom of the avionics stack in the center of the cockpit panel.

The KFC 150 obtains pitch and roll information from the KI256 horizon/flight director indicator, and heading commands from a KI525A HSI, which is part of the KCS55 compass system. The autopilot receives NAV (Track) commands from the selected NAV source, and glide slope information for approach mode from the selected NAV when coupled.

The autopilot is armed by activation of flight director, and a mode (heading, nav, approach, and altitude hold). The autopilot has electric manual and auto trim. Manual electric trim is commanded by a thumb switch on the left horn of pilots yoke. The autopilot will disengage when either the manual electric trim is used, or the autopilot interrupt switch is pressed, or autopilot master switch to off, or circuit breaker pulled. There is a CWS (control Wheel Steering) switch on the right horn of pilots yoke that will disengage the pitch and roll servo clutch while pressed. When CWS switch is pressed the Flight Director when armed will sync to the aircraft present pitch and roll and when released the autopilot will fly the sync FD bars. CWS is most common used flying a missed approach.

During pre-installation planning of the GNS530W and 430W being replaced by a GTN750 and GTN650 we found GNS units were wired IAW the installation manual and the KI525 HSI was used as the #1 indicator, and an existing GI106A was used as the #2 indicator. The autopilot nave functions of Left, Right for Nav, and UP, Down for approach were connected to the KI525A for #1 nav, and GI106A for #2 Nav. The aircraft was not equipped with a GPS roll steering converter, and therefore required manual heading inputs to be commanded from the KI525A heading bug.

The autopilot servos when engaged are able to be manual overridden with the flight control wheel (yoke) for both pitch and roll.

The upgrade from a GNS unit to A GTN you will see from the wiring schematics attached merely involves removing the wire from one pin at GNS unit and reinserting it to another at GTN unit, and replacing the mounting trays. This task was accomplished, as well as the addition of an ADSB compliant transponder (GTX345). All post installation checks and configurations carried out IAW the approved IMs.

A ground run including an operational and functionality test of all aircraft systems were carried out by myself. A post installation test flight was performed by Renato Simone on October 20, 2016 at 4:30 and pilot reported back to me upon his arrival at KCCR all good.

Should you have any additional questions, or need anything further my cell phone is [redacted]

Please let me know what files or items you have received today. If email returns to me undeliverable, I feel we will have to find another alternative like printing hard copy, or putting onto a flash drive and mailing US mail.

Regards,

James D Lewis